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veronica.thompson@bayerbms.com

bmspatents@bayerbms.com

donna.veatch@bayerbms.com



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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/687,156  
Filing Date: October 16, 2003  
Appellant(s): ADKINS ET AL.

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N. Denise Brown  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed June 27, 2008 appealing from the Office action mailed January 9, 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

U.S. 4,680,358	Yu	7-1987
U.S. 6,013,731	Holeschovsky et al.	1-2000
WO 87/03886	Hoffman	7-1987

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Issue I. Rejection of Claims 11-16, 19, 22-27, and 29 Under 35 USC 102(b)**  
**as Being Anticipated by WO 87/03886**

Claims 11-16, 19, 22-27, and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by WO 87/03886.

The reference discloses addition products of unsaturated monols and ethylenically unsaturated monomers, such as styrene, acrylonitrile, and mixtures thereof, suitable for use as dispersants for polymer-polyols, wherein the unsaturated monols have structures that meet those of appellants' component (1). The reference discloses such structures at page 6, lines 18-20 and 42-44, wherein phenylene linkages are disclosed as being preferred for the R<sup>3</sup> variable of the structure. The reference further discloses that the addition polymerization may occur in the presence of monols and polyols and chain transfer agents. See pages 11-13 and 15-17.

Quantities of components that satisfy appellants' claimed amounts are set forth at page 10, lines 10-12; page 12, lines 14 and 15; and page 13, line 34 through page 14.

**Issue II. Rejection of Claims 11-16, 19, 21-27, 29, and 31 Under 35 USC 102(b)**  
**as Being Anticipated by Holeschovsky et al.**

Claims 11-16, 19, 21-27, 29, and 31 are rejected under 35 U.S.C. 102(b) as being anticipated by Holeschovsky et al. ('731).

Holeschovsky et al. disclose at column 7, lines 28-30 that the preformed stabilizers of WO 87/03886 may be used within their invention, and it is noted that Holeschovsky et al. teach at column 7, lines 9-17 that polyols may be used as diluents. Patentees teach that the diluent need not be of the low unsaturation type, and the position is taken that the "need not" language clearly indicates that low unsaturation polyols may alternatively be used as diluents. The position is taken that these disclosed low unsaturation polyether polyols correspond to those of claims 21 and 31. WO 87/03886 has been discussed above with respect to Issue I.

**Issue III. Rejection of Claims 20, 21, 30, and 31 Under 35 USC 103(a)**  
**Over WO 87/03886 in View of Holeschovsky et al.**

Claims 20, 21, 30, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 87/03886 in view of Holeschovsky et al. ('731).

As aforementioned, the primary reference discloses addition products of unsaturated monols and ethylenically unsaturated monomers, such as styrene, acrylonitrile, and mixtures thereof, suitable for use as dispersants for polymer-polyols, wherein the unsaturated monols or polyols have structures that meet those of appellants' component (1). The reference discloses such structures at page 6, lines 18-20 and 42-44, wherein phenylene linkages are disclosed as

being preferred for the R<sup>3</sup> variable of the structure. The reference further discloses that the addition polymerization may occur in the presence of monols and polyols (as solvent) and chain transfer agents. See pages 11-13 and 15-17. Quantities of components that satisfy appellants' claimed amounts are set forth at page 10, lines 10-12; page 12, lines 14 and 15; and page 13, line 34 through page 14.

The primary reference is silent with respect to appellants' specific alcohols of claims 20 and 30 and the specific polyol of claims 21 and 31. With respect to the specifically claimed alcohols, the position is taken that it would have been obvious to utilize any alcohol, such as those claimed, that would have been expected to be miscible with the base polyol, as suggested at page 11 of the primary reference. With respect to the specifically claimed polyol of claims 21 and 31, the position is taken that it was known at the time of invention to produce stabilizer compositions using low unsaturation polyol as diluents. See abstract of Holeschovsky et al. and column 7, lines 9-17. Holeschovsky et al. specifically disclose the stabilizers of WO 87/03886 at column 7, lines 28-30. In view of this teaching, it would have been obvious to produce the stabilizer of WO 87/03886 using low unsaturation polyols, including polypropylene polyols, as a diluent.

**Issue IV. Rejection of Claims 11-16, 19, 22-27, and 29 Under 35 USC 103(a) Over Yu**

Claims 11-16, 19, 22-27, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yu ('358).

Yu discloses addition products of unsaturated alcohols containing alkenyl aryl constituents and ethylenically unsaturated monomers, such as vinyl, acrylic, or diene monomers, wherein the unsaturated alcohols have structures that meet those of appellants' component (1).

Patentee additionally discloses free-radical polymerization initiators and further discloses that the addition polymerization may occur in the presence of solvents such as benzene. See abstract; columns 3-12; and examples within Yu. Given the disclosure that copolymers may be produced and the disclosure of such commonly used comonomers as styrene and acrylonitrile, the position is taken that one would have clearly envisaged the ratio of claims 15 and 26 from patentee's disclosure or at the least found it obvious to operate within such a range of styrene to acrylonitrile.

While Yu discloses amounts of ethylenically unsaturated monomer (corresponding to appellants' component (2)) and free-radical initiator (corresponding to appellants' component (3)) within Example 2 that meets appellants' claims, Example 2 discloses an amount of macromer that is below applicants' claimed amount and an amount of solvent or diluent that is slightly greater than that claimed. With respect to the amount of solvent, the position is taken that one of ordinary skill would have found it obvious to vary the amount of solvent so as to control such properties as viscosity; it has not been established that the amount of diluent utilized is critical. With respect to the amount of macromer, Yu teaches at column 10, lines 12-16 that the ratio of ethylenically unsaturated monomer to macromer (i.e.; relative amounts of macromer to ethylenically unsaturated monomer) may be varied, so as to control the properties of the resulting polymer; therefore, patentee provides teaching that would motivate one to vary the amount of macromer, depending on the properties desired. Furthermore, it is noted that Yu teaches at column 9, lines 29-38 that the macromer (unsaturated alcohol) of the invention may be homopolymerized as well as copolymerized; therefore, it is reasonable to conclude that copolymers having nearly one hundred percent of the macromer component are encompassed by

the teachings of the reference. Accordingly, it is not seen that there is anything limiting the ratio of macromer to ethylenically unsaturated monomer within the reference. Accordingly, the position is taken that it would have been obvious to increase the amount of macromer used from that disclosed within Example 2.

**(10) Response to Argument**

**Response to Arguments Pertaining to Issue 1.**

Appellants have argued that the dispersants of the reference are different than the pre-formed stabilizers of the instant invention, because the dispersants of the reference are soluble in the base polyol, whereas the pre-formed stabilizers of the instant invention are dispersions having a low solids content and a small particle size. In response, appellants' remarks are not commensurate in scope with the claims. There is absolutely no requirement that that the pre-formed stabilizer of the instant claims be a dispersion, and it is noted that the claims are completely silent with respect to such features as solids content, the presence of particles, or particle sizes. Despite appellants' remarks, there appears to be no claim language that supports their position that the instant composition is distinguished from the composition of the prior art. Furthermore, appellants' discussion of the working examples totally ignores the remaining teachings within the reference. The position is taken that the teachings of the reference are not limited to its examples, and it is again noted that quantities of components that satisfy appellants' claimed amounts are set forth at page 10, lines 10-12; page 12, lines 14 and 15; and page 13, line 34 through page 14. These citations have been previously set forth by the examiner; however, appellants have not addressed them.



**Response to Arguments pertaining to Issue II.**

The examiner has considered appellants' arguments; however, the examiner maintains the same positions as set forth with respect to the WO 87/03886 reference. Appellants go to great lengths to discuss the stabilizers that are primarily disclosed within Holeschovsky et al.; however, in so doing, it appears that appellants fail to appreciate why the Holeschovsky et al. reference has been relied upon; it has been relied upon solely for its teachings explaining that the pre-formed stabilizers in WO 87/03886 (see column 7, lines 28-30) may alternatively be employed. The fact that their use may not be preferred does not detract from the fact that they are disclosed. Therefore, appellants' discussion of the alternative stabilizers is not seen to be relevant to the disclosure pertaining to the use of the stabilizers of WO 87/03886. Furthermore, despite appellants' arguments, Holeschovsky et al. does disclose that the stabilizer precursors may be diluted with additional polyol, wherein the polyol need not be of the low unsaturation type. See column 7, lines 9-17. This disclosure is considered to relate to appellants' claimed component (4). The position is taken that "low unsaturation type" encompasses polyols containing low levels of intrinsic unsaturation and polyols containing induced unsaturation, and it is not seen that the type of unsaturation is particularly relevant to the issues at hand, since appellants' claims merely specify "low unsaturation" without further limitation. As aforementioned, the position is taken that by stating that low unsaturation polyols need not be used, the reference is actually disclosing their alternative use to conventional polyols. Furthermore, appellants' argument with respect the molecular weight of the low intrinsic unsaturation monol is not well taken, because it is not seen that this argument is relevant to the relied upon disclosure within the Holeschovsky et al. reference. The argued monol appears to be

relevant to the alternative embodiment of the invention that it not being relied upon by the examiner.

**Response to Arguments Pertaining to Issue III.**

Appellants' response essentially mirrors the arguments they have set forth for the WO 87/03886 reference and the Holeschovsky et al. reference, in that appellants argue that neither reference discloses the claimed stabilizers. Therefore, in similar fashion, the examiner maintains and reiterates the positions set forth above with respect to each reference. In summation, in view of the relied upon teachings of the references, the position is maintained that it would have been *prima facie* obvious to practice the invention of the primary reference using the claimed components of claims 20, 21, 30, and 31 as diluents.

**Response to Arguments Pertaining to Issue IV.**

Appellants have argued that the Yu reference does not disclose or suggest pre-formed stabilizers, a process for preparing pre-formed stabilizers, and/or the required ethylenically unsaturated macromers. In response, while patentee does not refer to the compositions as being pre-formed stabilizers, it is not seen that this distinguishes the claims from the prior art; rather the issue is that the reference discloses a composition and method of making that are considered to render the claims *prima facie* obvious for the reasons set forth by the examiner. It is not seen that the term, pre-formed stabilizer, conveys any definitive limitation to the claims. Furthermore, despite appellants' argument, the examiner has explained that the reference discloses an unsaturated alcohol that meets appellants' macromer. See structure (IV) for example. Appellants' have additionally argued that the present invention requires a quantity of macromers that exceeds more than six times that which is described in the Yu reference. In

response, the examiner has noted that Example 2 discloses the use of less macromer than is claimed; however, the examiner has pointed to teachings within columns 9 and 10 that support the examiner's position that the amount of macromer relative to ethylenically unsaturated monomer may be varied widely. Accordingly, since the reference is considered to address the issue of varying the quantities of the macromer and monomers, such a modification would have been obvious to the skilled artisan. Finally, appellants argue that the teaching within column 10 of the Yu reference indicates that the copolymers of Yu possess properties from hard plastic to soft elastomeric and are therefore different from the dispersions of the present invention. In response, the position is again taken that appellants' remarks are not commensurate in scope with the claims, since the claims are silent with respect to dispersions. Furthermore, it has not been established that, at comparable solids content, that the respective compositions do not have comparable properties. It is reasonable that the disclosure that appellants refer to regarding hard plastic and soft elastomers pertains to compositions devoid of solvents; however, the reference clearly allows for the use of solvents in significant amounts, and appellants' remarks do not adequately address such embodiments. Appellants' argument does not alter the fact that the reference allows for the use of the respective reactants in varying amounts.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Rabon Sargent/  
Primary Examiner, Art Unit 1796

Conferees:

/James J. Seidleck/

Supervisory Patent Examiner, Art Unit 1796

/ William Krynski/

Quality Assurance Specialist, TC 1700